

### R E M A R K S

Careful review and examination of the subject application are noted and appreciated.

### IN THE SPECIFICATION

The specification has been amended for consistency. Support for the amendment to the specification can be found in the drawings as originally filed, for example, on FIG. 2. As such, no new matter has been introduced.

### SUPPORT FOR CLAIM AMENDMENTS

Support for the amendments to the claims can be found in the drawings as originally filed, for example, on FIGS. 1-5, in the claims as originally filed, for example, claims 6 and 19, and in the specification as originally filed, for example, on page 1, line 12 through page 2, line 8, on page 4, lines 3-11, on page 9, line 17 through page 10, line 19, and on page 11, line 11 through page 12, line 11. With respect to new claims 21-23, support can be found in the drawings as originally filed, for example, FIGS. 1 and 2, and in the specification as originally filed, for example, on page 1, lines 4-9, on page 4, lines 3-11, on page 5, line 9 through page 6, line 4 and on page 9, line 17 through page 10, line 19. As such, no new matter has been introduced.

CLAIM REJECTIONS UNDER 35 U.S.C. §102

The rejection of claims 1-12 and 14-20 under 35 U.S.C. §102 as being anticipated by Shpantzer et al. (US 2002/0186435; hereinafter Shpantzer '435) is respectfully traversed and should be withdrawn.

Shpantzer '435 is directed to a system and method for orthogonal frequency division multiplexed optical communication (Title).

In contrast to Shpantzer '435, the presently claimed invention (claim 1) provides that each of the first and second serial streams comprise **interleaved data** from the first and second source data streams, respectively. Claims 6 and 15 include similar limitations. Shpantzer '435 does not disclose or suggest serial streams comprising interleaved data, as presently claimed. Therefore, Shpantzer '435 does not disclose or suggest each and every element of the presently claimed invention, arranged as in the claims. As such, the presently claimed invention is fully patentable over the cited reference and the rejection should be withdrawn.

Specifically, Shpantzer '435 is silent regarding interleaving data, as presently claimed. Applicants' representative has downloaded an electronic version of the Shpantzer '435 reference and performed a search for the terms "interleave", "interleaved" and "interleaved data". No occurrences

were found. Furthermore, Shpantzer '435 is directed to a system that uses dense wavelength division multiplexing (DWDM). One skilled in the art would not consider a multi-channel DWDM signal to be the same as the presently claimed interleaved data streams. Therefore, the Office Action does not appear to have met the Office's burden of factually establishing a *prima facie* case of anticipation.

Specifically, one skilled in the art would understand interleaving data to involve combining multiple data streams into a single data stream (e.g., a form of time division multiplexing). In contrast, DWDM involves transmitting multiple optical signals as a multi-channel signal that maintains the distinctness of the individual optical signals. In particular, a motorway analogy can be used to explain the difference between dense wavelength division multiplexing as taught by Shpantzer '435 and interleaving as presently claimed. Specifically, interleaving, as presently claimed, merges traffic flow from multiple lanes into a single lane. In contrast, DWDM as taught by Shpantzer '435, expands the number of lanes on which traffic flows simultaneously. In particular, DWDM is used to allow dozens of different data signals to be transmitted simultaneously over a single fiber. The distinct signals are maintained on distinct wavelengths of light (or sub-channels) to keep each signal within its own narrow band (see paragraphs 0004, 0010 and 0011 of Shpantzer '435). Since the DWDM

of Shpantzer '435, uses distinct sub-channels to simultaneously carry distinct optical signals, it follows that Shpantzer '435 does not disclose or suggest interleaving data from source data streams, as presently claimed. Therefore, Shpantzer '435 does not disclose or suggest each and every element of the presently claimed invention, arranged as in the claims. As such, the presently claimed invention is fully patentable over the cited reference and the rejection should be withdrawn.

With respect to claim 9, the position taken in the Office Action on page 4, lines 6-9, that Shpantzer '435 "discloses that said first circuit comprises an interleaver circuit configured to multiplex said plurality of first source data streams into said one or more first interleave data streams" does not appear to be technically correct. The Office Action fails to present evidence or a convincing line of reasoning why one skilled in the pertinent art would consider a dense wavelength division multiplexing (DWDM) multiplexer as taught in Shpantzer '435 as being the same as the presently claimed interleaver circuit. Specifically, the DWDM multiplexer (e.g., element 210 in FIG. 2b of Shpantzer '435) combines several optical signals into a single **multi-channel** optical signal that is transmitted through the optical fiber 120 (see paragraph 0004 of Shpantzer '435).

In contrast, the presently claimed interleaver circuit combines multiple source data signals into a single serial stream

(as illustrated in FIG. 5 of the specification). One of ordinary skill in the pertinent art would not consider an interleaver circuit that combines a multiple source data streams into a single serial stream as being the same as the DWDM multiplexer of Shpantzer '435 that combines several optical signals into a multi-channel optical signal. Therefore, the Office Action does not appear to meet the Office's burden to factually establish a *prima facie* case of anticipation by showing that the cited reference discloses or suggests each and every element of the presently claimed invention arranged as in the present claim. As such, the presently claimed invention is fully patentable over the cited reference and the rejection should be withdrawn.

With respect to claims 10 and 11, the Office Action's statements in support of the rejection of claims 10 and 11 do not appear to correspond to the figures of Shpantzer '435. Specifically, the Office Action refers to element 910 of FIG. 9A of Shpantzer '435 which is merely a start block in a flow diagram. The Office Action further refers to elements 1145 and 1105 in FIG. 9b of Shpantzer '435. However, FIG. 9b of Shpantzer '435 does not contain either an element 1145 or an element 1105. Furthermore, the rejection of claims 10 and 11 refers to an element 1045 in FIG. 10 of Shpantzer '435 and an element 1050 in FIG. 10a of Shpantzer '435. However, FIG. 10 of Shpantzer '435 does not include an element 1045 and there is no FIG. 10a in the Shpantzer '435

reference. Thus, the Office Action does not clearly explain the basis for the rejection of claims 10 and 11. Therefore, the Office Action does not appear to meet the Office's burden to factually establish a *prima facie* case of anticipation. As such, the presently pending claims 10 and 11 are fully patentable over the cited reference and the rejection should be withdrawn.

Furthermore, the Shpantzer '435 reference is a continuation-in-part of application serial no. 09/962,243. By definition, a continuation-in-part involves material that was not in the parent application. Furthermore, the additional material in a continuation-in-part is only entitled to the filing date of the continuation-in-part. The figures of Shpantzer '435 referred to in the Office Action are not the same on their face as the corresponding figures in the parent application. Therefore, it appears the Office Action is using material only entitled to the later filing date of the Shpantzer '435 application. Since the filing date of the Shpantzer '435 reference, February 28, 2002, is after the filing date of the present application, July 26, 2001, Applicants' representative respectfully request that the Examiner provide evidence that the portions of the Shpantzer '435 reference relied upon in the present Office Action are entitled to the earlier filing date of the parent application or withdraw the rejections.

Because the Office Action does not address how the specific limitations of claims 15-20 are construed to read on the cited reference, but rather merely states that "the claimed limitations have already been discussed with respect to claims 1-3, 5-11 and 14," the rejection of claims 15-20 is respectfully traversed for the same reasons presented above with respect to claims 1-3, 5-11 and 14. Specifically, the Office Action does not appear to meet the Office's burden to factually establish a *prima facie* case of anticipation by showing that the cited reference discloses or suggests each and every element of the presently claimed invention, arranged as in the present claims. As such, the presently claimed invention is fully patentable over the cited reference and the rejection should be withdrawn.

#### **CLAIM REJECTIONS UNDER 35 U.S.C. §103**

The rejection of claim 13 under 35 U.S.C. §103 as being unpatentable over Shpantzer '435 in view of Panahi et al. (U.S. Patent No. 6,272,130; hereinafter Panahi) has been obviated by appropriate amendment/is respectfully traversed and should be withdrawn.

Claim 13 depends indirectly from claim 6 which is believed to be allowable. As such, the presently pending claim 13 is fully patentable over the cited references and the rejection should be withdrawn.

Furthermore, the cited references do not appear to be analogous art. Specifically, Shpantzer '435 is classified in class 359, subclass 136, while Panahi has a classification of 370 and a subclass of 366. U.S. patent classifications are evidence of the analogousness of references. Since the cited references have different classifications, it appears that the references are not analogous. Furthermore, the Office Action fails to present specific reasons or understanding within the knowledge of one of skill in the art which would have led one of skill in the art to select the cited references for combination as the inventor has done. Furthermore, Shpantzer '435 is directed to a system and method for orthogonal frequency division multiplexed optical communications while Panahi is directed to time division multiplexer-demultiplexer and method of operation thereof. The Office Action fails to provide evidence or a convincing line of reasoning why one of ordinary skill in the art would have a reasonable expectation of success in combining two systems having different multiplexer techniques. Therefore, the Office Action fails to meet the Office's burden to factually establish a *prima facie* case of obviousness (MPEP § 2142). As such, the presently claimed invention is fully patentable over the cited references and the rejection should be withdrawn.



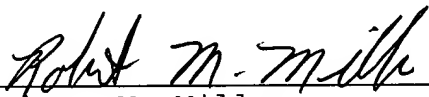
Accordingly, the present application is in condition for allowance. Early and favorable action by the Examiner is respectfully solicited.

The Examiner is respectfully invited to call the Applicants' representative should it be deemed beneficial to further advance prosecution of the application.

If any additional fees are due, please charge our office Account No. 50-0541.

Respectfully submitted,

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